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PSM® Personal Monitor Systems

PSM 300 | PSM 900 | PSM 1000

PSM®300 PERSONAL MONITOR SYSTEM



The PSM®300 Stereo Personal Monitor System delivers detailed 24-bit digital audio and reliable wireless freedom to every corner of the stage. Patented Audio Reference Companding ensures the clearest sound, with ultra-low noise and no artifacts. Dependable wireless coverage extends over 300 ft (90 m) of range and eliminates dropouts. Easy to setup and operate, PSM300 systems offer one-touch frequency scan and sync to find and assign a clean wireless channel. Adjust the volume using MixMode® technology or stereo mode to create a personal mix from two channels of audio.

System Features

- Send two channels of audio wirelessly to performers onstage
- 24-bit digital audio provides clear, detailed sound
- Patented Audio Reference Companding sounds more like wired
- Up to 90 dB signal-to-noise ratio
- Exceptionally wide stereo separation
- Solid analog RF connection over a 300 ft (90 m) range
- Create a personal mix from the bodypack with MixMode® technology or stereo mode
- Frequency scan and IR sync quickly finds and assigns a clean channel
- Half-rack, single channel transmitter with included rack mount kit
- P3R bodypack systems available with SE112 Sound Isolating™ Earphones
- P3RA professional bodypack systems available with SE215 Sound Isolating™ Earphones

PSM[®]300 System Specifications

| | |
|--|--|
| RF Carrier Range | 488–937.5 MHz <i>(Varies by region, see frequency range and output power table)</i> |
| Compatible Frequencies <i>Per band</i> | up to 15 |
| Tuning Bandwidth | 24 MHz maximum <i>(Note: varies by region)</i> |
| Operating Range <i>Environment dependent</i> | 90 m (300 ft) |
| Audio Frequency Response | 38 Hz–15 kHz |
| Signal-to-Noise Ratio <i>A-weighted</i> | 90 dB (typical) |
| Total Harmonic Distortion <i>ref. ±34 kHz deviation @ 1 kHz</i> | <0.5% (typical) |
| Companding | Patented Shure Audio Reference Companding |
| Spurious Rejection <i>ref. 12 dB SINAD</i> | >80 dB (typical) |
| Frequency Stability | ±2.5 ppm |
| MPX Pilot Tone | 19 kHz (±1 Hz) |
| Modulation | FM*, MPX Stereo <i>(ref. ±34 kHz deviation @ 1 kHz)</i> |
| Operating Temperature | -18 °C (0 °F) to +63 °C (145 °F) |

NOTE:

This Radio equipment is intended for use in musical professional entertainment and similar applications. This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and RF power levels for wireless microphone products.

Frequency Range

| Band | Range (MHz) | Transmitter Output (mW) |
|------|-------------|-------------------------|
| G20 | 488–512 | 30 |
| H8E | 518–542 | 10 |
| H20 | 518–542 | 30 |
| J10 | 584–608 | 30 |
| J13 | 566–590 | 30 |
| JB | 806–810 | 10 |
| K12 | 614–638 | 30 |
| K3E | 606–630 | 30 |
| L18 | 630–654 | 10 |
| L19 | 630–654 | 30 |
| M16 | 686–710 | 30 |
| M18 | 686–710 | 10 |
| Q25 | 742–766 | 30 |
| R12 | 794–806 | 10 |
| S8 | 823–832 | 20 |
| T11 | 863–865 | 10 |
| X7 | 925–937.5 | 10 |

Optional Accessories and Replacement Parts

| | |
|--|---------|
| Bodypack receiver | P3R |
| Half-rack Transmitter | P3T |
| Universal bodypack receiver | P3RA |
| Antenna and power distribution system | PA411 |
| Wired PSM bodypack | P9HW |
| Dynamic MicroDriver earphones | SE112 |
| Dynamic MicroDriver earphones | SE215 |
| High-definition MicroDriver earphones with tuned bass port | SE315 |
| High-definition earphones with dual MicroDrivers | SE425 |
| High-definition earphones with triple MicroDrivers | SE535 |
| High-definition earphones with quad MicroDrivers | SE846 |
| Carrying/Storage Bag | 95A2313 |
| 1/4 wave antenna (774–952 MHz) | UA400 |
| 1/4 wave antenna (470–752 MHz) | UA400B |

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Component Specifications

P3T Wireless Transmitter

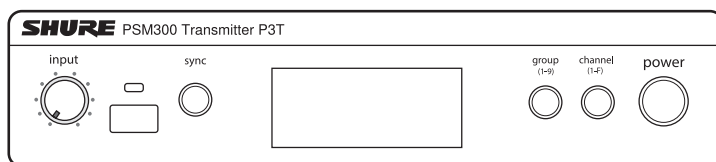
Overview

Dependable wireless transmission and 24-bit digital audio deliver a superior personal monitoring mix for every performance. Send 2 channels of audio to a bodypack receiver up to 300 feet away, with patented Audio Reference Companding to ensure transparent sound quality with no artifacts or dropouts. The rugged, half rack transmitter features easy front-panel controls including one-touch sync and input level knob to enable quick setup and easy operation. Rear-panel balanced inputs and loop outputs provide versatile connectivity to audio sources and other P3T units.

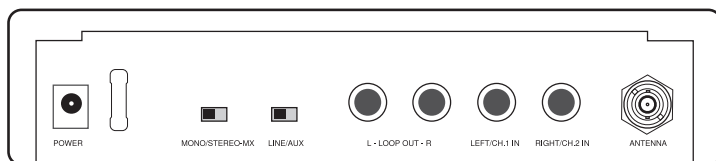
- Single channel, half-rack transmitter with included rack mount kit
- Sends a stereo or mono mix wirelessly to performers onstage
- Rock-solid wireless connection to P3R receiver over 300 ft (90 m) range
- One-touch IR sync instantly links transmitter to receiver
- Up to 30 mW output power (region dependent)
- 24 MHz tuning range (region dependent)
- ¼" (6.3 mm) TRS balanced inputs and loop outputs
- High-contrast LCD menu with detailed L/R audio output meters
- Detachable antenna
- External power supply
- Selectable line/aux level

Product Specifications

| | |
|--------------------------|--|
| RF Output Power | 10, 20, 30 mW <i>Note: varies by region</i> |
| RF Output Impedance | 50 Ω (typical) |
| Net Weight | 783 g (27.6oz.) |
| Dimensions | 43 × 198 × 172 mm (1.7 × 7.8 × 6.8 in.), H × W × D |
| Power Requirements | 12–15 V DC, 260 mA maximum |
| Audio Input | |
| Connector Type | 6.35 mm (1/4") TRS |
| Polarity | Tip positive with respect to ring |
| Configuration | Electronically balanced |
| Impedance | 40 kΩ (actual) |
| Nominal Input Level | Switchable, +4 dBu, -10 dBV |
| Maximum Input Level | +4 dBu: +22 dBu -10 dBV: +12.2 dBu |
| Pin Assignments | Tip=hot, Ring=cold, Sleeve=ground |
| Phantom Power Protection | Up to 60 V DC |
| Audio Output | |
| Connector Types | 6.35 mm (1/4") TRS |
| Configuration | Electronically balanced |
| Impedance | Connected directly to inputs |



P3T Front Panel



P3T Back Panel

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Component Specifications

P3R Wireless Bodypack Receiver

Overview

The P3R is a wireless stereo bodypack receiver for use with the PSM@300 Personal Monitor System. With 24-bit digital audio clarity and up to 300 ft of range (90 m), the P3R offers reliable wireless freedom that covers every corner of the stage. Simply connect a set of earphones and adjust the controls to create a wireless personal mix. Patented Audio Reference Companding ensures the clearest sound, with ultra-low noise and no artifacts. Use MixMode® technology to customize the mono blend from two channels of audio, or select stereo mode and adjust the left/right balance as desired. One-touch frequency scan and automatic frequency selection enables quick setup and connection to a P3T transmitter via IR sync.

- Slim, lightweight, durable form factor
- Frequency scan and IR sync quickly finds and assigns a clean channel
- MixMode® technology enables adjustment of two independent monitoring mix levels
- Stereo mode enables adjustment of left/right balance
- Easy to adjust volume knob and mix control
- 2 AA batteries provide up to 6 hours of continuous operation
- Power save mode preserves battery life when earphones are not connected
- Power and battery status LED

Specifications

| | |
|---|--|
| Active RF Sensitivity <i>(at 20 dB SINAD)</i> | 2.2 μ V |
| Image Rejection | >90 dB |
| Adjacent Channel Rejection | >60 dB |
| Intermodulation Attenuation | >50 dB |
| Blocking | >60 dB |
| Audio Output Power <i>1 kHz @ <1% distortion, peak power, @32 Ω</i> | 80 mW (per output) |
| Minimum Load Impedance | 16 Ω |
| Headphone output | 3.5 mm (1.8") stereo |
| Net Weight | 98 g (3.5 oz.) <i>(without batteries)</i> |
| Dimension | 110 × 64 × 21 mm H × W × D |
| Battery Life <i>(continuous use)</i> | 5–7 hours, AA batteries |



P3R Wireless Bodypack Receiver

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Component Specifications

P3RA Professional Wireless Bodypack Receiver

Overview

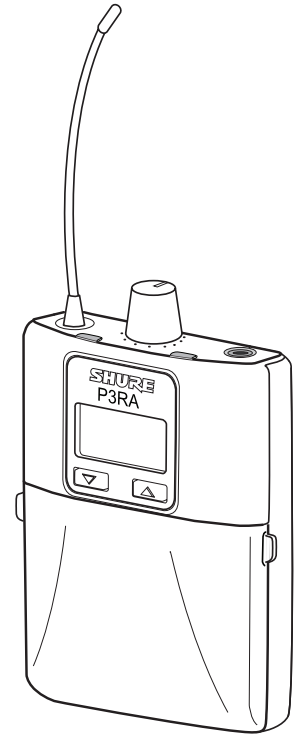
The P3RA is a wireless stereo bodypack receiver for use with the PSM@300 Personal Monitor System.

With detailed 24-bit digital audio and reliable wireless performance, the P3RA bodypack delivers professional personal monitoring to any corner of the stage. Patented Audio Reference Companding ensures the clearest sound, with ultra-low noise and no artifacts. Find a wireless channel easily, using the scan function to automatically select the cleanest frequency available from a wide tuning bandwidth. Adjust the volume and use MixMode® technology or stereo mode to create a personal mix from two channels of audio. EQ and volume limiting further individualize the sound via the high-contrast LCD menu. With a compact and rugged aluminum body, the P3RA ensures a long lifetime of use and easily clips onto a belt or guitar strap. Two standard AA batteries provide up to 6 hours of continuous use. The optional SB900A rechargeable battery (sold separately) extends runtime and allows easy in-unit charging.

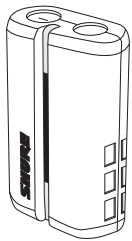
- Rugged, all-metal construction
- High-contrast LCD screen with menu-based navigation
- 2-band shelving EQ with high and low boost
- Volume limiter sets the maximum gain level range for the volume knob
- MixMode® technology enables adjustment of two independent monitoring mix levels
- Stereo mode enables adjustment of left/right balance
- Frequency scan and IR sync quickly finds and assigns a clean channel
- 2 AA batteries provide up to 6 hours of continuous use
- Optional Shure SB900A lithium-ion rechargeable battery provides extended runtime
- Power and battery status LED
- 5-segment battery life meter
- Power save mode preserves battery life when earphones are not connected

Specifications

| | |
|---|--|
| Active RF Sensitivity (at 20 dB SINAD) | 2.2 µV |
| Image Rejection | >90 dB |
| Adjacent Channel Rejection | >60 dB |
| Intermodulation Attenuation | >50 dB |
| Blocking | >60 dB |
| Audio Output Power 1 kHz @ <1% distortion, peak power, @32 Ω | 80 mW (per output) |
| Minimum Load Impedance | 16 Ω |
| Headphone output | 3.5 mm (1.8") stereo |
| Net Weight | 196 g (6.9 oz.) (with batteries) |
| Dimensions | 99 × 66 × 23 mm (H × W × D) |
| Battery Life (continuous use) | 4–5.5 hours, AA batteries 5.5–7 hours, SB900A battery |



P3RA Professional Bodypack Receiver



Rechargeable Power Management (sold separately)

SB900A Rechargeable Battery

PSM 300 receivers are compatible with the SB900A lithium-ion rechargeable battery, which provides up to 7 hours of continuous use and precise tracking of remaining life and charge cycle details.

SBC200 Dual Docking Recharging Station

This compact and portable unit charges batteries while in transmitters or out. Up to 4 SBC200's can be chained together to run off one power supply.

SBC800 Eight Battery Recharging Station

This compact and portable unit charges up to 8 SB900A batteries to full capacity within 3 hours, with status LEDs to indicate power levels. SB900A batteries fit securely in the charger for easy, efficient storage and transport.

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